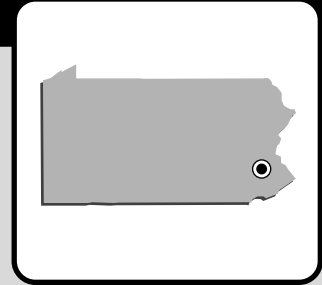


WILLOW GROVE NAVAL AIR STATION

WILLOW GROVE, PENNSYLVANIA

Engineering Field Division/Activity: NORTHDIV
Major Claimant: COMNAVRESFOR
Size: 1,090 Acres
Funding to Date: \$2,536,000
Estimated Funding to Complete: \$23,261,000
Base Mission: Reserve Naval Air Station for training of aviation activities
Contaminants: Heavy metals, PCBs, POLs, solvents



Number of Sites:		Relative Risk Ranking of Sites:		
CERCLA:	11	High:	5	Not Evaluated: 0
RCRA Corrective Action:	0	Medium:	0	Response Complete: 7
RCRA UST:	2	Low:	1	Total Sites: 13
Total Sites:	13			

NPL

EXECUTIVE SUMMARY

Willow Grove NAS is located 25 miles northeast of Philadelphia, Pennsylvania. The Navy acquired the airfield in 1942, and has used it to train pilots ever since then. The major operations on base that contributed to the environmental problems were the landfilling of paint wastes, the conducting of fire fighter training, and the storing of fuel. The primary contaminants of concern are heavy metals, the chemical additive PCBs, petroleum products, and solvents. A Federal Facilities Agreement (FFA) is planned to be initiated in FY96. Willow Grove NAS is not in the process of applying for, renewing, or modifying a RCRA permit; therefore, no RCRA corrective action is required.

Although no perennial streams are located within the boundaries of Willow Grove NAS, tributaries of the Pennypack and Little Neshaminy Creeks extend to within 1/4 mile of Willow Grove NAS. Pennypack Creek is designated a warm water fishery by the Pennsylvania Department of Environmental Resources and trout stocking is practiced in Little Neshaminy Creek. Runoff from surface areas is conveyed by a storm drainage system to one of several outfalls to Pennypack Creek or Park Creek (a tributary of Little Neshaminy Creek). NAS Willow Grove lies on the Stockton aquifer, which is the primary source of drinking water in the region.

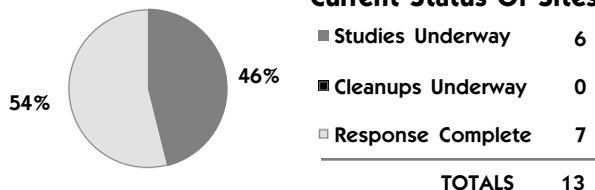
Subsequent to the recent NPL listing of Willow Grove NAS, the installation established a Restoration Advisory Board (RAB) and a Community Relations Plan (CRP). Interested parties from the community have contacted the installation about becoming RAB members, however to date a RAB meeting has not been held. RAB meetings are anticipated to be held on a quarterly basis. The CRP is going to be updated in FY96. The plan will provide fact sheets, press releases, and public notices. An Administrative Record (the official file) was established in March 1991 and is maintained by the Navy. The information in the Administrative Record was placed in two Information Repositories, established in 1991, for public access.

Currently, there are six sites in the study phase. Remedial Investigation/Feasibility Study (RI/FS) activities determined that three sites are sources of chlorinated hydrocarbons in groundwater, and one may be a source of dieldrin contamination to surface water. An RI for four sites completed in FY93 recommended a Phase II RI/FS to fill data gaps and provide alternatives for cleanup actions. Phase II RI/FS Work Plan activities continue for Sites 1, 2, 3, 5 and 11 and a Phase I RI began for one site. There are seven sites that are Response Complete (RC).

In the future, the plan is to implement the final approved work plan for the Phase II RI/FS during the spring of FY96. Then, the fieldwork for the Phase II RI will be completed in late FY96. And finally, in FY97, develop a Record of Decision (ROD) based upon the results of the FS and initiate a design for the preferred alternatives.

At Site 10, Navy Fuel Farm, a pilot study is underway to evaluate different methods for free-product recovery of petroleum product floating on the surface of a groundwater aquifer. Results from this study will be of benefit to other cleanup programs.

Current Status Of Sites



WILLOW GROVE NAS RELEVANT ISSUES

ENVIRONMENTAL RISK



HYDROGEOLOGY - Although no perennial streams are located within the boundaries of Willow Grove NAS, tributaries of the Pennypack and Little Neshaminy Creeks extend to within 1/4 mile of Willow Grove NAS. Surface water that is not retained in either the Recreational Pond or the Captain's House Pond is conveyed to one of several outfalls to the Pennypack Creek or Park Creek (a tributary of Little Neshaminy Creek). The soils at Willow Grove NAS are conducive to infiltration of rainfall. Willow Grove NAS lies on the outcrop of the middle member of the Stockton Formation. The Stockton Aquifer is the primary source of drinking water in the region. Willow Grove NAS by virtue of its location on the outcrop of the Stockton Formation, is in the recharge area for this aquifer. Of the rainfall which infiltrates into the soil, approximately half will eventually percolate to the water supply aquifer of the Stockton aquifer and be withdrawn by supply wells. Volatile Organic Compounds (VOCs) have been identified in the potable water supply wells at Willow Grove NAS in concentrations which exceed the Ambient Water Criteria of the EPA. The Privet Road Compound (Site 1), the 9th Street Landfill (Site 3), and the Fire Training Area (Site 5), were found to be sources of contamination to the water-table aquifer. The Antenna Field Landfill (Site 2) was found to be a source of the pesticide dieldrin found in surface water.



NATURAL RESOURCES - Wildlife species occurring at Willow Grove NAS are those that commonly occur near urbanized areas. It has been determined that endangered and threatened wildlife or plants as recognized by the State of Pennsylvania may be within the boundaries of Willow Grove NAS specifically the plant Hairy Beadgrass and the aquatic species Pearl Mussel. Both ponds on the base are available for fishing by military personnel. Pennypack Creek is designated a warm water fishery by the Pennsylvania Department of Environmental Resources and trout stocking is practiced in Little Neshaminy Creek. There are no known sites or buildings on Willow Grove NAS that have been listed or determined to be eligible for listing on the National Register of Historic Places.



RISK - An EPA Baseline Risk Assessment, both ecological and human health will be done as part of the Phase II RI. For the Department of Defense (DOD) Relative Risk Ranking System, five of the CERCLA sites were determined to have a high ranking. These sites were ranked primarily due to known contamination to groundwater and identified migration pathways to water supply wells. A Public Health Assessment (PHA) will be performed by the Agency for Toxic Substances and Disease Registry (ATSDR) and the Navy Environmental Health Center (NEHC). The PHA is required due to the NPL listing. ATSDR planned a site visit in December 1995, but it was postponed due to the delays in the budget process.

REGULATORY ISSUES



NATIONAL PRIORITIES LIST - The HRS score for Willow Grove NAS was 50.00. The NAS was listed on the NPL in September of 1995. This score was primarily based upon chlorinated hydrocarbons found in the water table aquifer and the pesticide dieldrin in the surface water.



LEGAL AGREEMENTS - For the CERCLA sites, it is planned to initiate an FFA in FY96. The FFA will be between the Department of the Navy, the EPA Region III, and the State of Pennsylvania. Decision documents that are outdated will be revisited during FFA negotiations for Sites 4 and 6-9. For the two RCRA Underground Storage Tanks (USTs), Corrective Action was completed.



PARTNERING - Prior to Willow Grove's listing on the NPL in September 1995, no formal partnering had taken place. However, now that EPA Region III's involvement has increased, partnering will be integrated into the overall IR process for Willow Grove.

COMMUNITY INVOLVEMENT



RESTORATION ADVISORY BOARD - A Technical Review Committee (TRC) was formed in FY90 and was very active. Fact sheets were provided for public meetings. Subsequent to the recent NPL listing of Willow Grove NAS, the installation initiated the establishment of a Restoration Advisory Board (RAB). Interested parties from the community have contacted the installation about becoming RAB members, however to date a RAB meeting has not been held. RAB meetings are anticipated to be held on a quarterly basis.



COMMUNITY RELATIONS PLAN - A Community Relations Plan (CRP) is under development. The plan will provide fact sheets, press releases and public notices.



INFORMATION REPOSITORY - An Administrative Record (the official file) was established in March 1991 and is maintained by the Navy. The information in the Administrative Record was placed in two Information Repositories, established in 1991, for public access. They are located at the Horsham Township Municipal Building and at the base Environmental Department. The Information Repositories are updated regularly by the Navy.

WILLOW GROVE NAS HISTORICAL PROGRESS

FY86

Sites 1-9 - An Initial Assessment Study (IAS), equivalent to a Preliminary Assessment (PA), completed in February 1986, identified nine potentially contaminated sites at Willow Grove NAS. Of the nine sites identified, four sites (Sites 6-9) were determined not to pose a threat to human health or the environment. Five sites (Sites 1-5) were recommended for further investigation because of potential surface and groundwater contamination. Although the recommendation was for further study only at Sites 1-5, all nine sites were included in the SI.

FY88

UST 1 - A waste oil tank was removed.

FY89

USTs 1 and 2 - The Initial Site Characterizations (ISCs) were completed. Contaminated soil and a smaller abandoned tank at UST 1 were found and removed during the removal action. Corrective Action was completed.

FY90

Site 10 - An SI for the original nine sites plus a new site, Site 10, Navy Fuel Farm, was completed in May 1990 and recommended No Further Action (NFA) for Sites 4, 6, 8 and 9. An extended SI was recommended for Site 7 because of trace levels of methylene chloride (a common laboratory contaminant). Sites 1-3 and Site 5 were recommended for an RI/FS. Sites 1, 3 and 5 were determined to be sources of chlorinated hydrocarbons in the water-table aquifer. Site 2 was found to be a source of dieldrin discharge to surface water.

FY91

UST 2 - At the former NEX Service Station, two gasoline tanks and associated contaminated soils were removed and the Corrective Action was completed. A Decision Document was finalized in June 1991 advising all agencies of the finding of NFA and site closeout for Sites 4, 6, 8 and 9. Copies were forwarded to the EPA and State of Pennsylvania notifying them of this action.

FY92

Site 7 - A Decision Document was finalized in FY92 for Site 7.

FY93

Site 11 - During construction of an Air National Guard facility at Willow Grove NAS in FY93, a new site was found. Site 11, Aircraft Apron, was discovered while digging for drainage when a petroleum odor was detected. Site 11 was initially used as a defueling area for tank trucks. Preliminary sampling has indicated the presence of petroleum products. The contractor finished grading the area for drainage in appropriate personal protective equipment.

Sites 1-11 - At the end of the PA/SI phase, six of 11 CERCLA sites (Sites 1-3, 5, 10 and 11) were scheduled to move into the RI/FS phase. Five sites (Sites 4 and 6-9) were closed out.

Sites 1, 2, 3 and 5 - The RI recommended a Phase II RI/FS be conducted to fill in data gaps and provide alternatives for Remedial Actions (RAs) at Sites 1, 2, 3 and 5. This Phase II RI/FS was to be awarded in FY93, but since Willow Grove NAS was not on or proposed for the NPL and carried a low funding priority, the Phase II RI/FS was delayed.

Site 10 - A Remedial Design (RD) was started. A pilot recovery system for free-product removal was installed.

FY94

Site 11 - An RI was awarded.

PROGRESS FOR FISCAL YEAR 1995

FY95

Sites 1-3, 5 and 11 - A work plan for a Phase II RI was issued.

Site 10 - Completed a removal action for 6,000 cubic yards of soil, which had been stockpiled at the Navy Fuel Farm.

PLANS FOR FISCAL YEARS 1996 AND 1997

FY96

Sites 1-3, 5 and 11 - Implement the final approved work plan for the Phase II RI/FS during the spring of FY96. Complete the fieldwork for the Phase II RI in late FY96.

Sites 1-3 and 11 - Complete the Phase II RI/FS.

FY97

Sites 1-3, 5 and 11 - In FY97, develop a Record of Decision (ROD) based upon the results of the FS and initiate a design for the preferred alternatives. Initiate RD activities for five sites in FY97 for soils only.

WILLOW GROVE NAS PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	11							
SI	11							
RI/FS			5					
RD					1	5		
RA								6
IRA				1(1)				
RC	5							6
Cumulative Response Complete	45%							100%
UST	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
ISC	2							
INV								
CAP								
DES								
IMP	2							
IRA	2(2)							
RC	2							
Cumulative Response Complete	100%							